EXHIBIT 3

Generally, the coextruded and cooled tube is heated to its orientation temperature range to orient the film in e.g. a blown bubble process. Orientation temperature ranges are well known for most polymeric materials, and are generally below the melting point of the film.

Preferably, films made in accordance with the present invention are heated to between about 90°C and 140°C, and more preferably between 105°C and 115°C.

Obvious modifications to the invention as described may be made by one skilled in the art without departing from the spirit and scope of the claims as presented below.

What is claimed is:

1. An oriented multilayer film comprising:

a) a core layer comprising an ethylene vinyl alcohol copolymer;

b) two intermediate layers each comprising a polyamide;

c) two outer layers each comprising a polymeric material or blend of polymeric materials; and

d) each of said intermediate layers adhered to a respective outer layer by a layer of adhesive polymeric material.

2. An oriented film according to claim 1 wherein said core layer comprises an ethylene vinyl alcohol copolymer with an ethylene content of from about 28% to about 49% by weight.

3. An oriented film according to claim 1 wherein said polyamide comprises a nylon 6/nylon 12 copolymer.

4. An oriented film according to claim 1 wherein said two outer layers each comprise a blend of polymeric materials taken from the group consisting of (i) a blend of a linear low density polyethylene, a linear medium density polyethylene, and an ethylene vinyl acetate copolymer, and (ii) a blend of an ethylene propylene copolymer and a polypropylene.

5. An oriented film according to claim 1, wherein the adhesive polymeric material comprises a linear low density polyethylene-based, acid or acid anhydride-modified polymeric material when the outer layer is blend (i) of claim 4, and a polypropylene-based, acid or acid anhydride-modified polymeric material when the outer layer is blend (ii) of claim 4.

6. An oriented multilayer film comprising:

a) a core layer comprising an ethylene vinyl alcohol copolymer;

b) two intermediate layers each comprising a polyamide;

c) two outer layers each comprising a blend of polymeric material taken from the group consisting of (i) a blend of a linear low density polyethylene, a linear medium density polyethylene, and an ethylene vinyl acetate copolymer, and (ii) a blend of an ethylene propylene copolymer and a polypropylene; and

d) each of said intermediate layers adhered to a respective outer layer by a layer of adhesive polymeric material.

7. An oriented multilayer film according to claim 6 wherein said core layer comprises an ethylene vinyl alcohol copolymer with an ethylene content of from about 28% to about 49% by weight.

8. An oriented multilayer film according to claim 6 wherein said polyamide comprises a nylon 6/nylon 12 copolymer.

9. An oriented film according to claim 6 wherein each of said outer layers comprises a blend of (1) from about 40%, by weight, to about 60%, by weight, of a linear low density polyethylene, (2) from about 20%, by weight, to about 30%, by weight, of a linear medium density polyethylene, and (3) from about 20%, by weight, to about 30%, by weight, of an ethylene vinyl acetate copolymer.

10. An oriented film according to claim 9 wherein said blend comprises (1) about 50%, by weight, of a linear low density polyethylene, (2) about 25%, by weight, of a linear medium density polyethylene, and (3) about 25%, by weight, of an ethylene vinyl acetate copolymer.

11. An oriented film according to claim 6 wherein each of said outer layers comprises a blend of (1) from about 85% to about 96%, by weight, of an ethylene propylene copolymer, and (2) from about 4% to about 15%, by weight, of a polypropylene.

404/851115/3/17

12. An oriented film according to claim 11 wherein said blend comprises (1) about 90%, by weight, of an ethylene propylene copolymer, and (2) about 10%, by weight, of a polypropylene.

13. An oriented film according to claim 6 wherein the adhesive polymeric material comprises a linear low density polyethylene-based, acid or acid anhydride-modified polymeric material when the outer layer is blend (i), and a polypropylene-based, acid or acid anhydride-modified polymeric material when the outer layer is blend (ii).

14. A biaxially oriented multilayer film comprising:

a) a core layer comprising an ethylene vinyl alcohol copolymer;

b) two intermediate layers each comprising a polyamide;

c) two outer layers each comprising a blend of polymeric material taken from the group consisting of (i) a blend of a linear low density polyethylene, a linear medium density polyethylene, and an ethylene vinyl acetate copolymer, and (ii) a blend of an ethylene propylene copolymer and a polypropylene;

d) each of said intermediate layers adhered to a respective outer layer by a layer of adhesive polymeric material; and

e) said film having a total thickness of from about 0.5 mils to about 2 mils.

404/851115/3/18

15. A biaxially oriented multilayer film according to claim 14 wherein said core layer comprises an ethylene vinyl alcohol copolymer with an ethylene content of from about 28% to about 49% by weight.

16. A biaxially oriented multilayer film according to claim 14 wherein said polyamide comprises a nylon 6/nylon 12 copolymer.

17. A biaxially oriented multilayer film according to claim 14 wherein each of said outer layers comprises a blend of (1) from about 40%, by weight, to about 60%, by weight, of a linear low density polyethylene, (2) from about 20%, by weight, to about 30%, by weight, of a linear medium density polyethylene, and (3) from about 20%, by weight, to about 30%, by weight, of an ethylene vinyl acetate copolymer.

18. A biaxially oriented film according to claim 17 wherein said blend comprises (1) about 50%, by weight, of a linear low density polyethylene, (2) about 25%, by weight, of a linear medium density polyethylene, and (3) about 25%, by weight, of an ethylene vinyl acetate copolymer.

19. A biaxially oriented film according to claim 14 wherein each of said outer layers comprises a blend of (1) from about 85% to about 96%, by weight, of an ethylene propylene copolymer, and (2) from about 4% to about 15%, by weight, of a polypropylene.

20. A biaxially oriented multilayer film according to claim 19 wherein said blend comprises (1) about 90%, by weight, of an ethylene propylene copolymer, and (2) about 10%, by weight, of a polypropylene.

21. A biaxially oriented multilayer film according to claim 14 wherein the adhesive polymeric material comprises a linear low density polyethylene-based, acid or acid anhydride-modified polymeric material when the outer layer is blend (i), and a polypropylene-based, acid or acid anhydride - modified polymeric material when the outer layer is blend (ii).

22. A biaxially oriented multilayer film according to claim 14 wherein said film has a total thickness of from about 0.5 mils to about 1.5 mils.

23. A biaxialy oriented multilayer film according to claim 22 wherein said film has a total thickness of about one mil.

24. A method of making an oriented multilayer film comprising:

a) coextruding a core layer of an ethylene vinyl alcohol copolymer, two intermediate layers of a polyamide, two outer layers of a polymeric material or blend of polymeric materials, and two layers of an adhesive polymeric material, each adhesive layer joining respectively a polyamide and an outer layer;

b) rapidly cooling the coextruded film;

c) collapsing the cooled film;

d) heating the collapsed film to its orientation temperature range; and

e) stretching and orienting the heated film.

25. The method of claim 24 wherein the coextruded film is cooled to about room temperature.

26. The method of claim 24 wherein the heated film is oriented by racking at a racking ratio of from about 3.0 to about 5.0 in both the longitudinal and transverse directions.

27. The method of claim 24 wherein the heated film is oriented by racking at a racking ratio of about 3.5 in both the longitudinal and transverse directions.

28. The method of claim 24 further comprising reheating the oriented film to a temperature near its orientation temperature to provide a substantially non-shrinkable film.